

FIG. 1

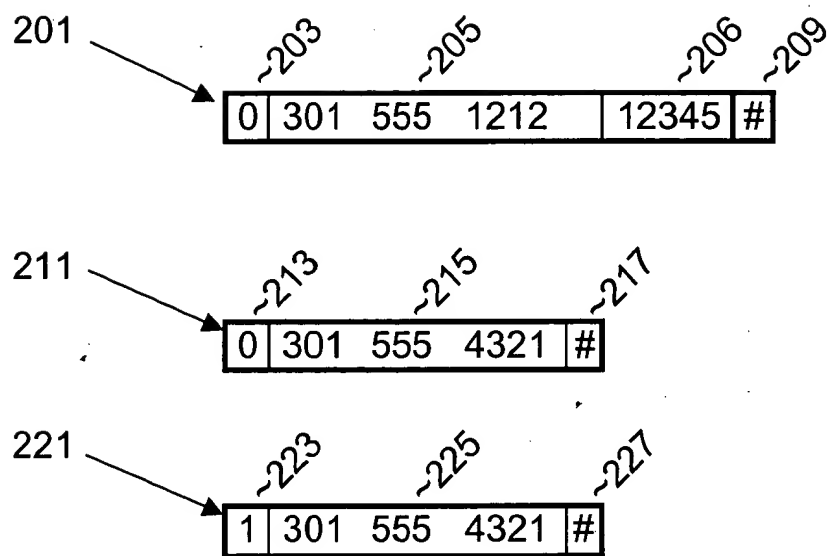


FIG. 2

00574820-051900

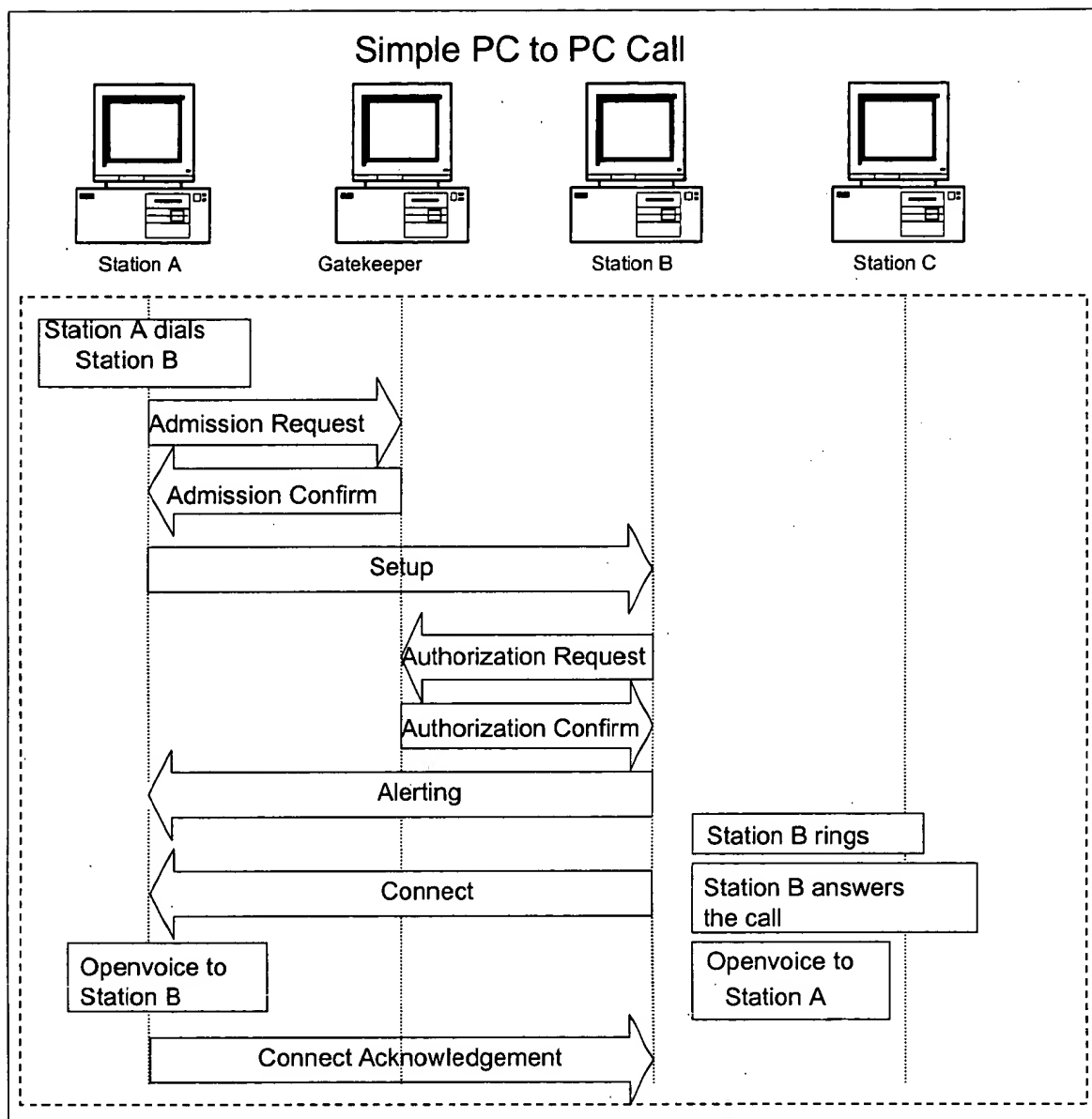


FIG. 3

Message Elements		Bytes	Value	Description
Gatekeeper Message Format				
	Ethernet Header			
		Destination MAC Address	6	
		Source MAC Address	6	
		Type	2	
	IP Header			
		Version/Head Len	1	
		Service Type	1	
		Total Length	2	
		Identification	2	
		Flags/Fragmentation Offset	2	
		TTL	1	
		Protocol	1	
		Checksum	2	
		Source Address	4	
		Destination Address	4	
	UDP Header			
		Source Port	2	
		Destination Port	2	
		Total Length	2	
		Checksum	2	
	Other			
		CRC-8	1	
		Chan ID High	1	
		Chan ID Low	1	
		Protocol Discrim	1	
		Call Reference	3	
		Message Type	1	0x70 ZeroPlus Message Type
		ZeroPlus Message Type	1	Define for ZeroPlus Message
		Specific IE ID	1	Specific IEs

FIG. 4 - Gatekeeper Message Format

Message Elements		Bytes	Value	Description
Gatekeeper Request Message 0x38 Information Elements				
Request Sequence Number				
	Req Seq Number	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		A monotonically increasing number unique to the sender. It shall be returned to the receiver in any message associated with this specific message
	UIDPIN	1		ID of UIDPIN Information Element
	Length (L)	1	L1	Length of UIDPIN
	UID	L1		ASCII UIDPIN
	Client Version	1	0x72	ID of Client Version Information Element
	Length	1	L2	Number of bytes in Client Version IE (8 bytes)
	Client Version	L2		Client Version consists of 4 integers: MAJOR, MINOR, BUG_FIX, PATCH

FIG. 5 - Gatekeeper Request Message Information Elements

006750* 02842560

Message Elements		Bytes	Value	Description
Gatekeeper Confirm Message 0x39 Information Elements (Section 1)				
Req Seq No.	1	0x65	ID of requested sequence Number Information Element	
Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any message associated with the specific message.	
Station Type	1	0x2F	ID of Station Type Information Element	
Station Type	1	0x00	Station_Telset	
		0x01	Station_CO	
		0x05	Groundstart	
		0x06	Loopstart	
		0x07	Wink_start	
		0x08	Wink_Start_With_FGBD	
		0x09	Delay_Dial	
		0x0A	Immediate_Start	
		0x0B	Fixed_Pause	
		0x0C	ISDN_BRI_MVIP	
		0x0E	ISDN_PRI	
Country Code*	1	0x55	ID of country Code Information Element	
CC Length*	1	L1	Length of Country Code	
Country Code*	L1		ASCII Country Code	
City Code*	1		ID of City Code Information Element	
City Code Length*	1	L2	Length of City Code	
City Code*	L2		ASCII City Code	
COC*	1	0x57	ID of COC Information Element	
COC Length*	1	L3	Length of COC	
Central Office Code*	L3		ASCII COC	
XXXX*	1	0x58	ID of XXXX Information Element	
XXXX Length*	1	L4	Length of XXXX	
Extension*	L4		ASCII XXXX	

* For End Station Only

FIG. 6a - Gatekeeper Confirmation Message Information Elements

Message Elements		Bytes	Value	Description
Gatekeeper Confirm Message 0x39 Information Elements (Section 2)				
	Rec_ID	1	0x5D	ID of Rec_ID Information Element
	Length	1	L1	Length of Rec_ID
	Record ID	L1		Record ID of CDR
	Feature Info	1	0x7b	ID of Feature Info Information Element
	Length	1		Number of Bytes in Feature Info IE
	Feature Status 0	1		Bit 7 - Forward on Busy and No Answer Bit 6 - Forward on No Answer Bit 5 - Forward on Busy Bit 4 - Forward Unconditional Bit 3 - Call Waiting Bit 2 - Transfer Bit 1 - Call Blocking for Outgoing Calls Bit 0 - Call Blocking for Incoming Calls
	Feature Status 1	1		For future Use
	Feature Status 2	1		For future Use
	Feature Status 3	1		For future Use
	Feature Allowed 0	1		Bit 7 - Forward on Busy and No Answer Bit 6 - Forward on No Answer Bit 5 - Forward on Busy Bit 4 - Forward Unconditional Bit 3 - Call Waiting Bit 2 - Transfer Bit 1 - Call Blocking for Outgoing Calls Bit 0 - Call Blocking for Incoming Calls
	Feature Allowed 1	1		For future Use
	Feature Allowed 2	1		For future Use
	Feature Allowed 3	1		For future Use

FIG. 6b - Gatekeeper Confirmation Message Information Elements

006T50-0237250

Message Elements		Bytes	Value	Description
Gatekeeper Reject Message 0x3A Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence No.	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any message associated with this specific message.
	Cause	1	0x0E	ID of Cause Information Element
	Cause Code	1	0x01 0x02 0x03 0x08	Success Already Being Configured Not in Host List Validation Failed

FIG. 7 - Gatekeeper Rejection Message Information Elements

Message Elements		Bytes	Value	Description
Admission Request Message 0x3E Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence No.	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any message associated with this specific message.
	UIDPIN	1	0x6B	ID of UIDPIN information Element
	Length (L)	1		Length of UIDPIN
	UIDPIN	L		ASCII UIDPIN
	Calling Party	1	0x13	ID of Calling Party Information Element
	Length (L)	1	L1	Length of Calling Party Number
	Calling Party Number	L1		ASCII Calling Party Number
	Called Party	1	0x42	ID of Called Party Information Element
	Length (L)	1	L2	Length of Called Party Number
	Calling Party Number	L2		ASCII Called Party Number

FIG. 8 - Admission Request Message 0x3E Information Elements

Message Elements		Bytes	Value	Description
Admission Confirmation Message 0x3F Information Elements (Section 1)				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence No.	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Auth Code	1	0x45	ID of Authorization Code Information Element
	Next Authorization Code	4		Authorization Code to use for the next call
	Max Duration	1	0x5A	ID of Max Duration Information Element
	Duration	4		Max Duration of call in seconds
	Orig UID	1	0x46	ID of UID Information Element
	Length (L)	1		Length of UID
	Originating UID	L1		ASCII Originating UID
	ORIG E164	1	0x69	ID of OrigE164 Information Element
	Length (L)	1		Length of Originating E164 Number
	Originating E164 Number	L2		ASCII Originating E164 Number
	TERMS	1	0x70	ID of TermE164 Information Element
	Length (L)	1		Length of Terminating E 164 Number
	Terminating E164 Number	L3		ASCII Terminating E164 Number

FIG. 9a - Admission Confirm Message 0x3F Information Elements

006T50-02874560

Message Elements		Bytes	Value	Description
Admission Confirmation Message 0x3F Information Elements (Section 2)				
	Acct Type	1	0x5C	ID of Account Type Information Element
	Accounty Type	2	0x01 0x02 0x03	Credit Account Debit Card Limited Credit Account
	Rec_id	1	0x5D	ID of Rec_id Information Element
	Length (L)	1	L1	Length of Rec_id
	Record ID	L1		Record ID of CDR
	Call Rate	1	0x6D	ID of Call Rate Information Element
	Rate	4		Rate in Host Byte Order
	IP_UID Tuple	1	0x5B	ID of IP_UID Tuple Information Element
	No. Tuples	1		Number of tuples in this message
	Host IP Address 1	4		IP Address of Host
	Term UID Length (L)	1	L2	Length of Terminating UID
	Term UID1	L2		ASCII Terminating UID
	BillingUID Length (L)	1	L3	Length of Billing UID
	Billing UID	L3		ASCII Billing UID
	Outpulse No. Len	1		Length of Outpulse No.
	Outpulse No.	4		ASCII Outpulse No.
	Station Type	1	0x00 0x01 0x05 0x06 0x07 0x08 0x09 0x0A 0x0B 0x0C 0x0E	STATION_TELSET STATION_CO GROUNDSTART LOOPSTART WINKSTART WINK_START_WITH_FGBD DELAY_DIAL IMMEDIATE_START FIXED_PAUSE ISDN_BRI_MVIP ISDN_PRI

FIG. 9b - Admission Confirm Message 0x3F Information Elements

Message Elements		Bytes	Value	Description
Admission Reject Message 0x40 Information Element				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Cause Cause Code	1 1	0x0E 0x01 0x02 0x03 0x08 0x09 0x0A	ID of Cause Information Element Success Already Being Configured Not in Host List Validation Failed Could not translate number Permission Denied

FIG. 10 - Admission Reject Message 0x40 Information Element

Message Elements		Bytes	Value	Description
Authorization Request Message 0x41 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Orig UID	1	0x46	ID of UID Information Element
	Length (L)	1	L1	Length of UID
	Originating UID	L1		ASCII Originating UID
	Auth Code	1	0x45	ID of Authorization Code Information Element
	Authorization Code	4		Authorization Code
	Term UID	1	0x62	ID of Terminating UID Information Element
	Length (L)	1	L2	Length of Terminating UID
	Terminating UID	L2		ASCII Terminating UID
	Orig GW IP Addr	1	0x73	ID of Originating Gateway IP Address Information Element
	Length (L)	1	L3	Length of Originating Gateway IP Address
	Originating Gateway IP Address	L3		Originating Gateway IP Address
	Term GW IP Addr	1	0x73	ID of Terminating Gateway IP Address Information Element
	Length (L)	1	L4	Length of Terminating Gateway IP Address
	Terminating Gateway IP Address	L4		Terminating Gateway IP Address

FIG. 11 - Authorization Request Message 0x41 Information Elements

Message Elements		Bytes	Value	Description
Authorization Confirm Message 0x42 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Acct Type	1	0x5C	ID of Account Type Information Element
	Account Type	2	0x01 0x02 0x03	Credit Account Debit Card Limited Credit Account
	Max Duratio	1	0x5A	ID of Max Duration Information Element
	Duration	4		Max Duration of call in seconds

FIG. 12 - Authorization Confirm Message 0x42 Information Elements

Message Elements		Bytes	Value	Description
Authorization Reject Message 0x43 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Cause	1	0x0E	ID of Cause Information Element
	Cause Code	2	0x01 0x02 0x03 0x08	Success Already Being Configured Not in Host List Validation Failed

FIG. 13 - Authorization Reject Message 0x43 Information Elements

005750-0237560

Message Elements		Bytes	Value	Description
End of Call Message 0x44 Information Elements (Section 1)				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Rec_id	1	0x5D	ID of Rec_id Information Element
	Length (L)	1		Length of Recd_id
	Record ID	L		Record ID of CDR
	Call Date	1	0x5e	ID of Call Date Information Element
	Date	8		ASCII Date in format YYYYMMDD
	Call Time	1	0x5F	ID of Call Time Information Element
	Time	6		ASCII Tim in format HHMMSS
	Billing UID	1	0x63	ID of UID Information Element
	Length (L)	1		Length of UID
	Billing UID	L		ASCII UID to Bill this call to
	OrigCh ID	1	0x60	ID of Originating Channel ID Information Element
	IP Address	4		IP Address
	span_id	2		Span ID
	channel_id	2		Channel ID

FIG. 14a - End of Call Message 0x44 Information Elements (Section 1)

TmCh ID	1	0x64	ID of Terminating Channel ID Information Element
IP Address	4		Terminating IP Address
span_id	2		Terminating Span ID
channel_id	2		Terminating Channel ID
Disc Reason	1	0x61	ID of Disconnect Reason Information Element
Reason Code	1	0x01 0x02 0x03 0x04 0x05 0x06	Terminating Side Disconnect Originating Side Disconnect Terminating Side All Trunks Busy Far end number busy Incomplete Dial Dropped Call
Orig UID	1	0x46	ID of UID Information Element
Length (L)	1		Length of UID
Originating UID	L		ASCII Originating UID
Term UID	1	0x62	ID of UID Information Element
Length (L)	1		Length of UID
Terminating UID	L		ASCII Terminating UID
ORIG E164	1	0x69	ID of OrigE164 Information Element
Length (L)	1		Length of Originating E164 Number
Originating E164 Number	L		ASCII Originating E164 Number
TERM E164	1	0x70	ID of TermE164 Information Element
Length (L)	1		Length of Terminating E164 Number
Terminating E164 Number	L		ASCII Terminating E164 Number
Usage	1	0x6c	ID of Usage Information Element
Usage	4		Usage in Host Byte Order

FIG. 14b - End of Call Message 0x44 Information Elements (Section 2)

Message Elements		Bytes	Value	Description
End of Call Ack Message 0x45 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 15 - End of Call Ack Message 0x45 Information Elements

Message Elements		Bytes	Value	Description
Bandwidth Request Message 0x47 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	Class of Service	1	0x6e	ID of Class of Service Information Element
	Number of Bytes in IE	1		Number of bytes in Class of Service Information Element
	Class of Service	1	0x01 0x05	Mulaw SX7300
	Farend IP Addr	1	0x6f	ID of Farend IP Address Information Element
	Length (L)	1		Length of Farend IP Address
	Farend IP Address	L		Farend IP Address
	Orig UID	1	0x46	ID of Originating UID information Element
	Length (L)	1		Length of Originating UID
	Originating UID	L		ASCII Originating UID

FIG. 16 - Bandwidth Request Message 0x47 Information Elements

Message Elements		Bytes	Value	Description
Bandwidth Confirm Message 0x48 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 17 - Bandwidth Confirm Message 0x48 Information Elements

000150-02342500

Message Elements		Bytes	Value	Description
Bandwidth Reject Message 0x49 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 18 - Bandwidth Reject Message 0x49 Information Elements

Message Elements		Bytes	Value	Description
FaxCall Message 0x4A Information Elements				
	Class of Service	1	0x6e	ID of Class of Service Information Element
	Number of Bytes in IE	1		Number of bytes in Class of Service Information Element
	Class of Service	1	0x01 0x05	Mulaw SX7300

FIG. 19 - FaxCall Message 0x4A Information Elements

Message Elements		Bytes	Value	Description
GK Trunks Busy Message 0x4E Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 20 - GK Trunks Busy Message 0x4E Information Elements

006150-02842560

Message Elements		Bytes	Value	Description
GK TRUNKS BUSY ACK MESSAGE 0x4F Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 21 -GK TRUNKS BUSY ACK MESSAGE 0x4F Information Elements

Message Elements		Bytes	Value	Description
GK TRUNKS BUSY ACK MESSAGE 0x4E Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 22 - GK TRUNKS BUSY ACK MESSAGE 0x4E Information Elements

Message Elements		Bytes	Value	Description
GK TRUNKS UNBUSY MESSAGE 0x4C Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 23 - GK TRUNKS UNBUSY MESSAGE 0x4C Information Elements

Message Elements		Bytes	Value	Description
GK TRUNKS UNBUSY ACK MESSAGE 0x4D Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.

FIG. 24 - GK TRUNKS UNBUSY ACK MESSAGE 0x4D Information Elements

005150-02372560

005150-0237560

Message Elements		Bytes	Value	Description
Heartbeat Message 0x53 Information Elements				
	Req Seq No	1	0x65	ID of Request Sequence Number Information Element
	Request Sequence Number	2		This is a monotonically increasing number unique to the sender. It shall be returned by the receiver in any messages associated with this specific message.
	UIDPIN	1	0x6B	ID of UIDPIN Information Element
	Length (L)	1		Length of UIDPIN
	UIDPIN	L		ASCII UIDPIN
	Active Calls	1	0x7c	ID of Active Calls Information Element
	Number of UID-SeqNum Tuples	1		Number of Sequence Number and Originating UID Tuples in this message
	SeqNum0	1		first byte of Sequence Number
	SeqNum1	1		second byte of Sequence Number
	Orig UID Length	1		ASCII Terminating UID
	Originating UID	L		ASCII Originating UID

FIG. 25 - Heartbeat Message 0x53 Information Elements

PC to PC - Forward Unconditionally

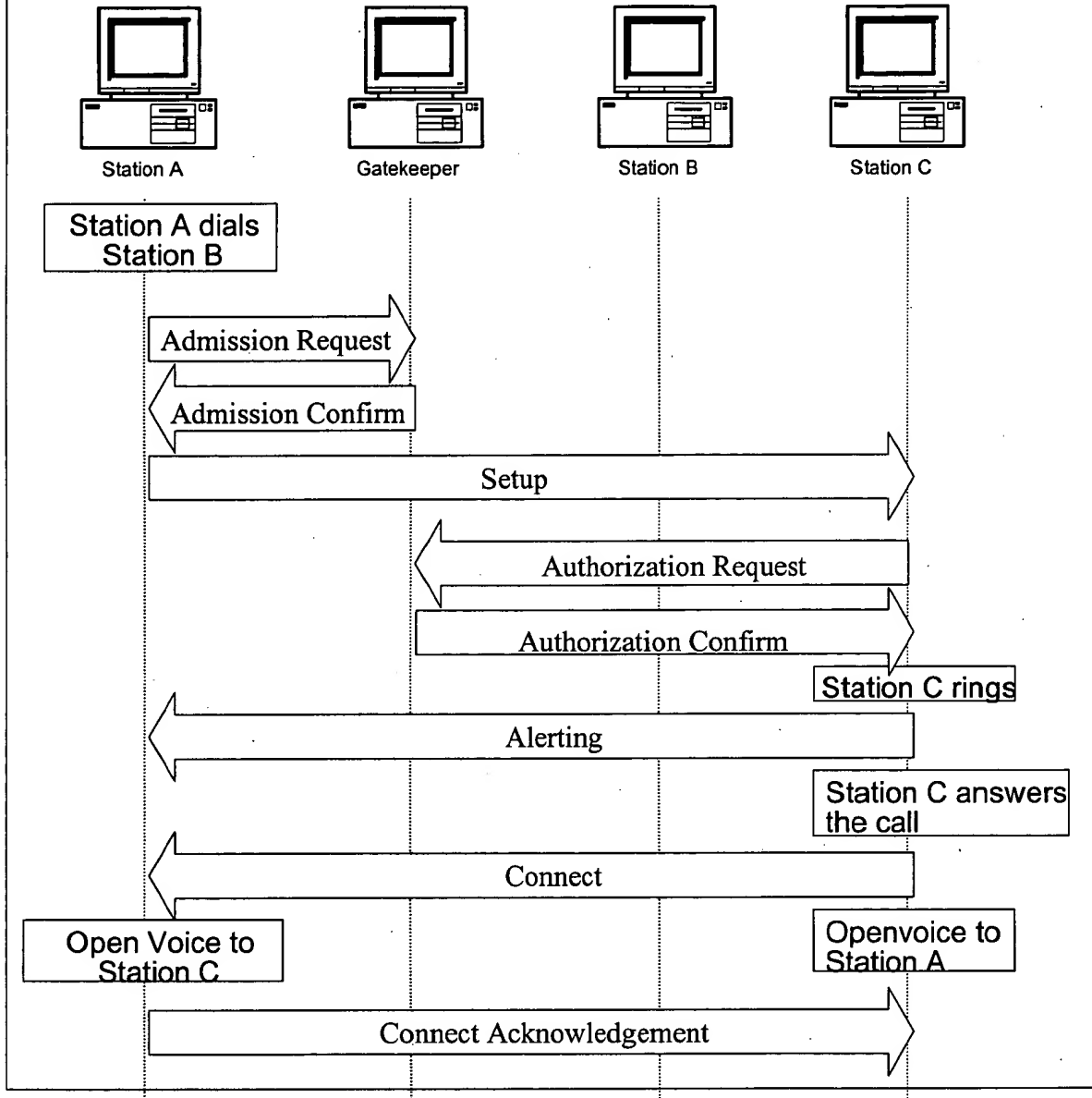
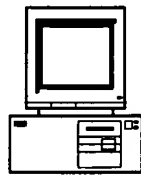


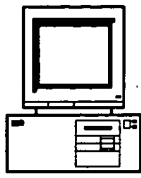
FIG. 26

005150" 0224/560

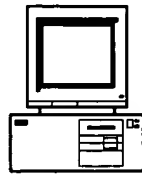
PC to PC - Forward On Busy



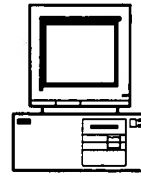
Station A -301-



Gatekeeper -303-



Station B -305-



Station C -307-

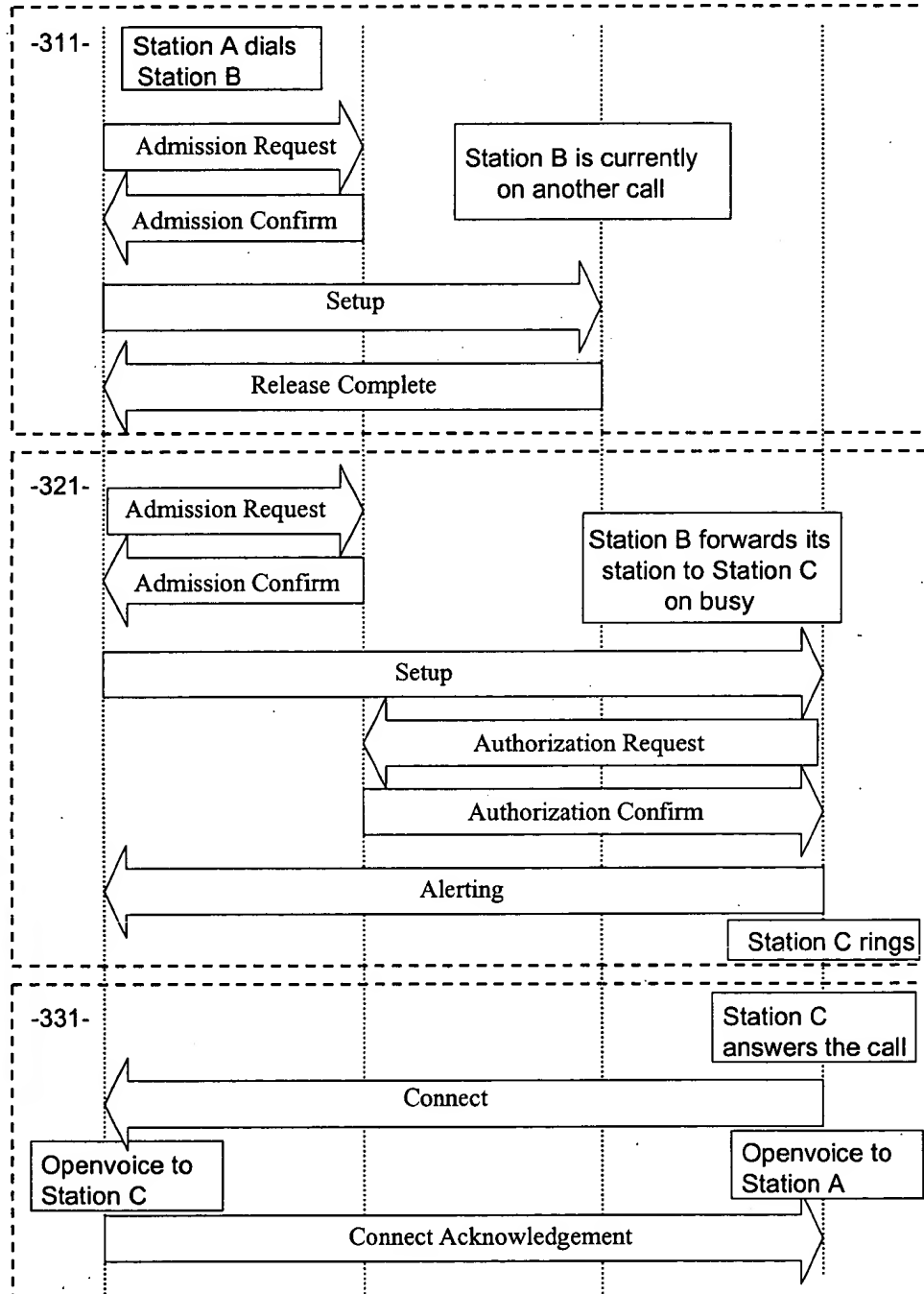


FIG. 27

006T50-02312560

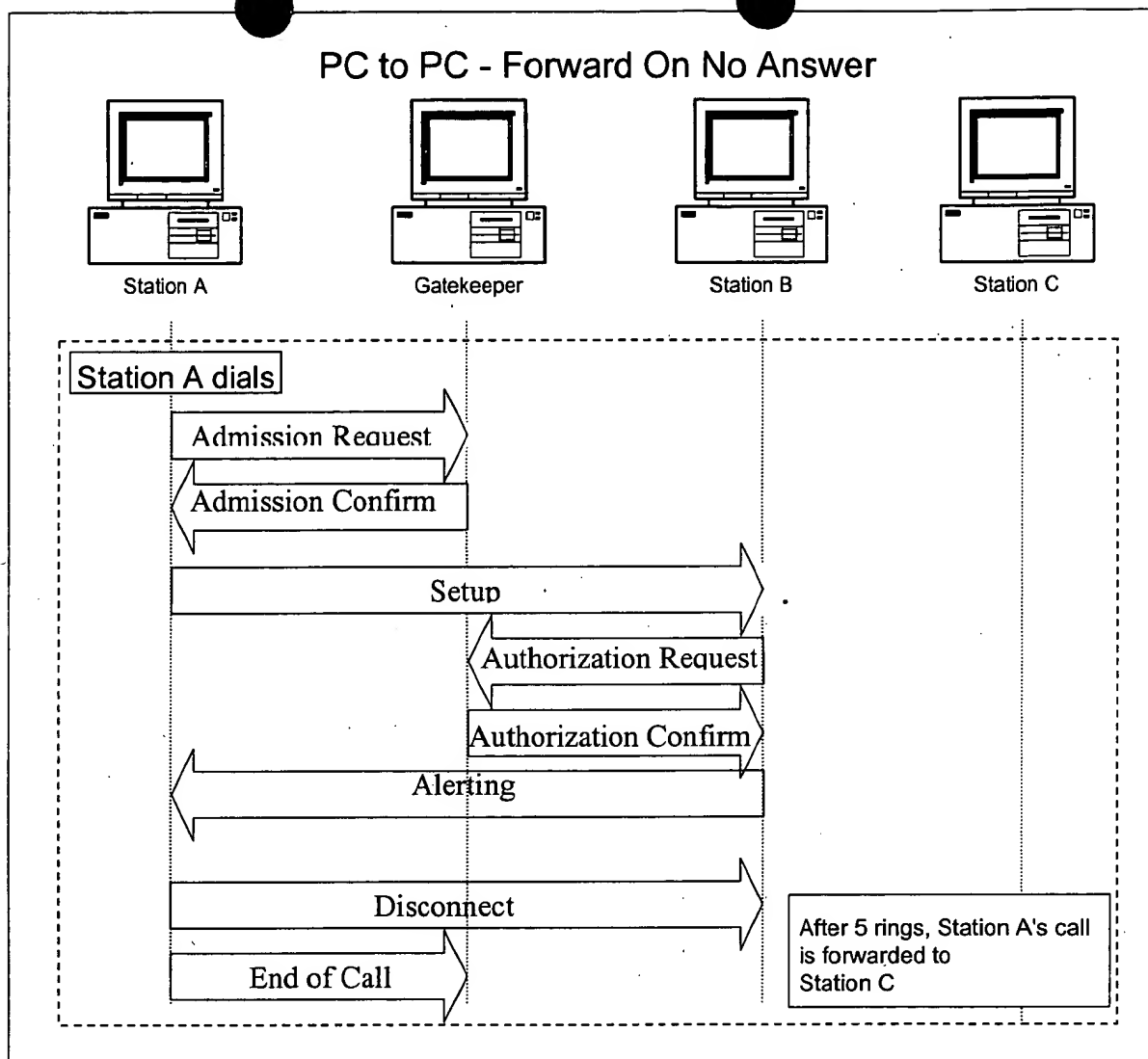


FIG. 28a

PC to PC - Forward On No Answer (cont)

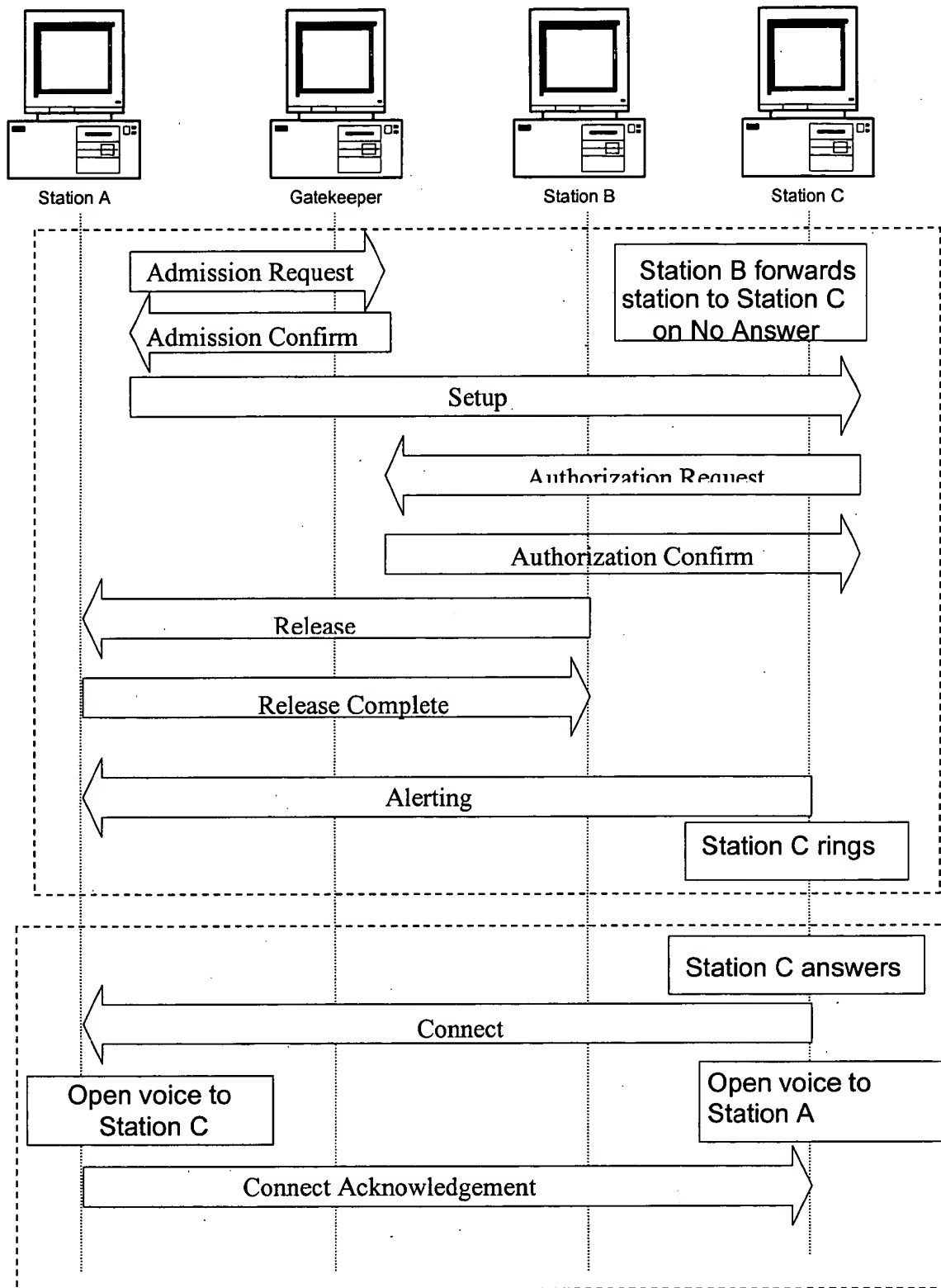
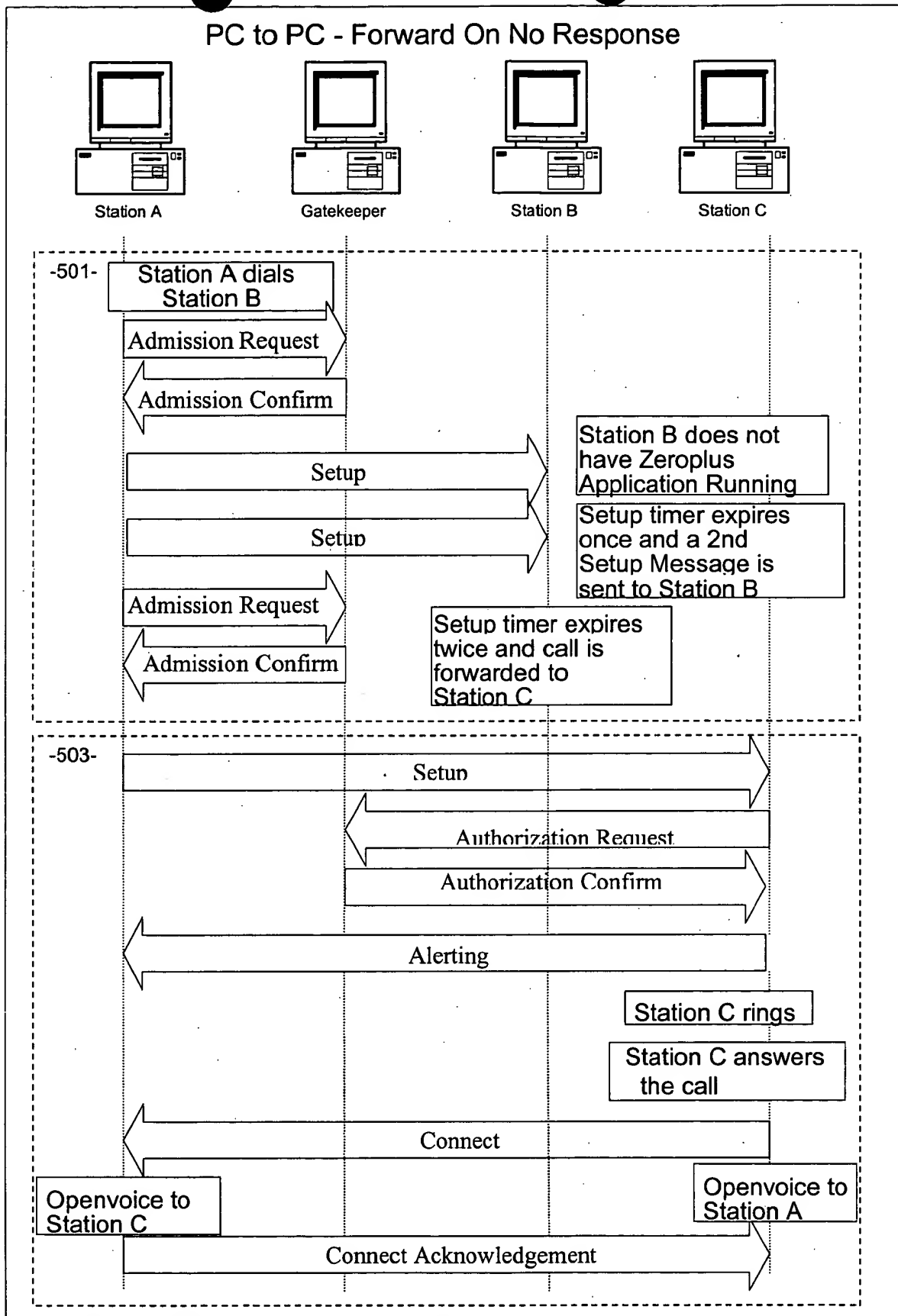


FIG. 28b

006T50-0287.560

006T50" 02342560



006150-02872560

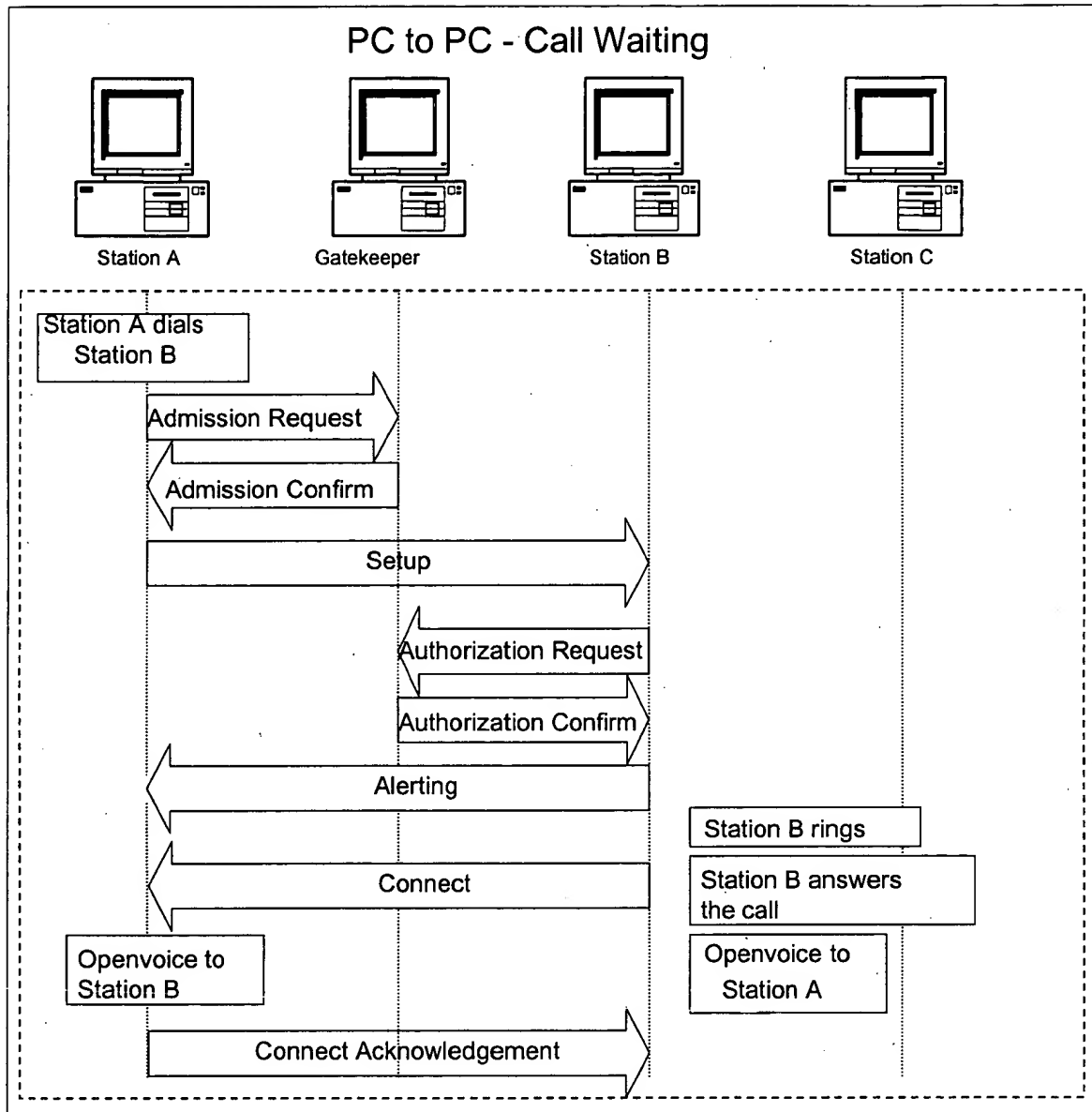


FIG. 30a

006T50" 023h2560

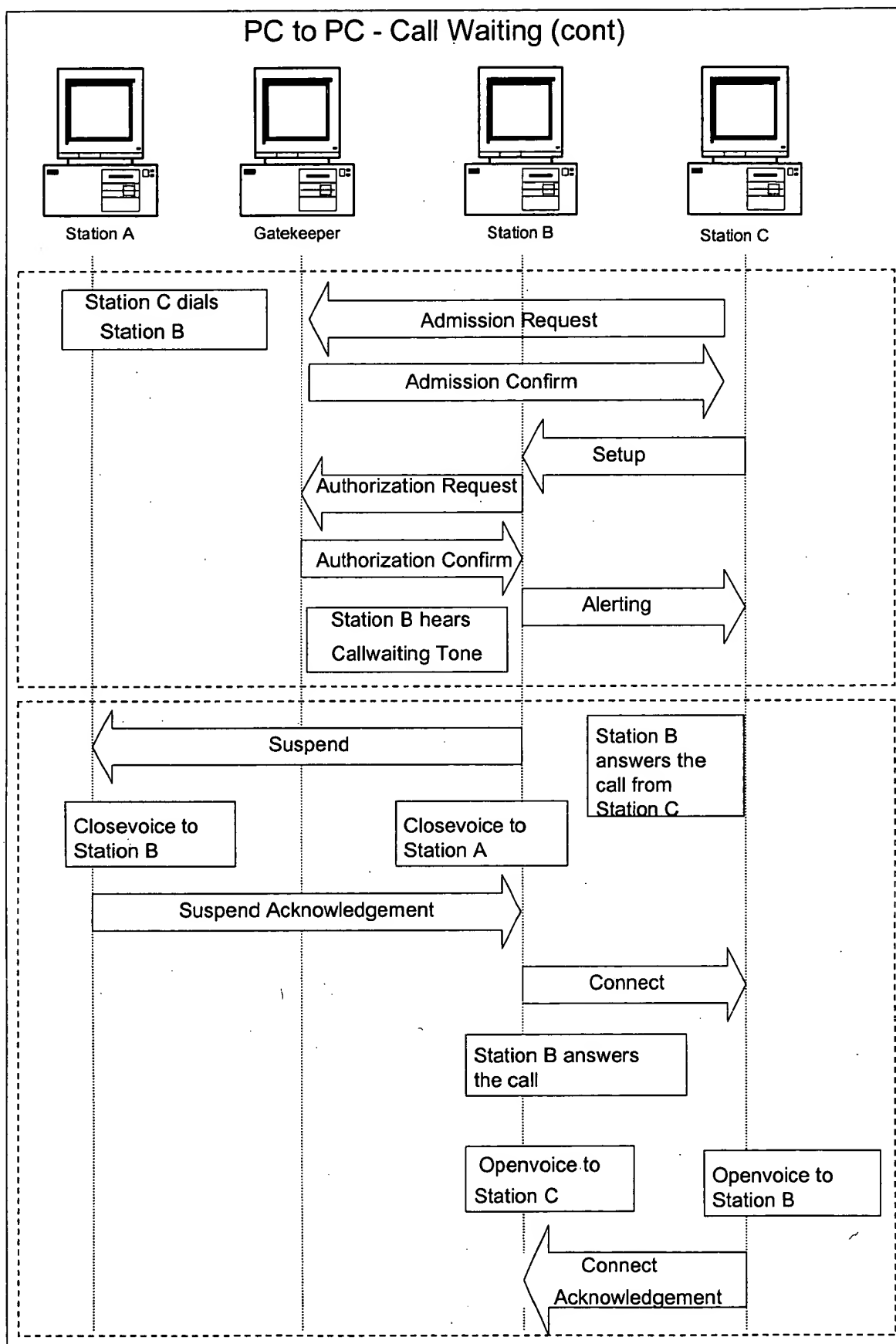
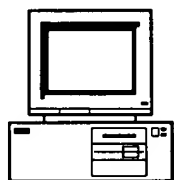
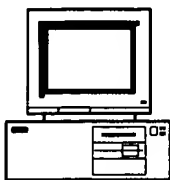


FIG. 30b

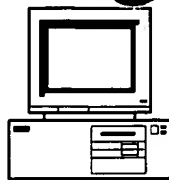
PC to PC - Blind Trans



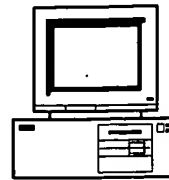
Station A



Gatekeeper



Station B



Station C

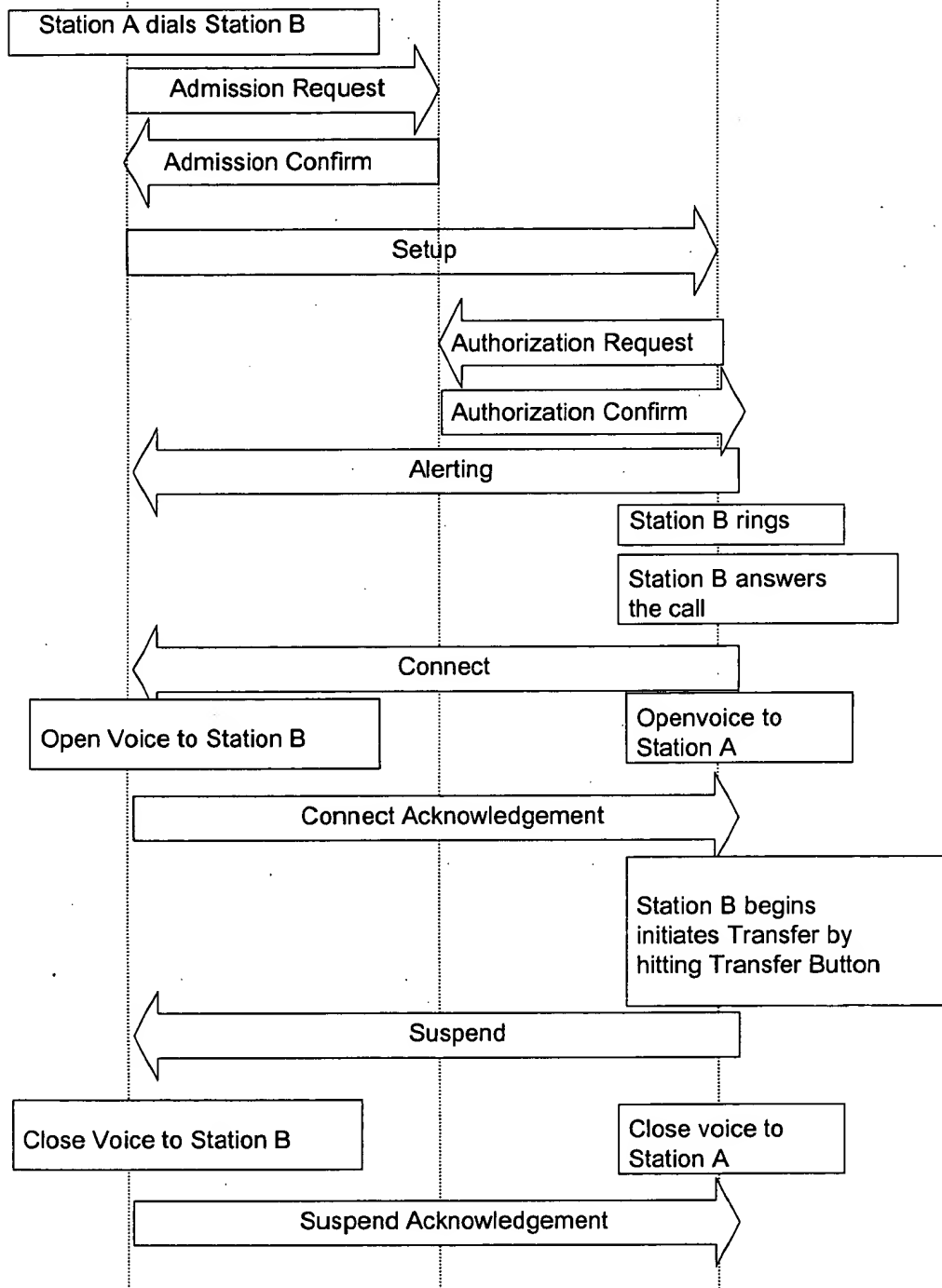


FIG. 31a

to PC - Blind Transfer (cont)

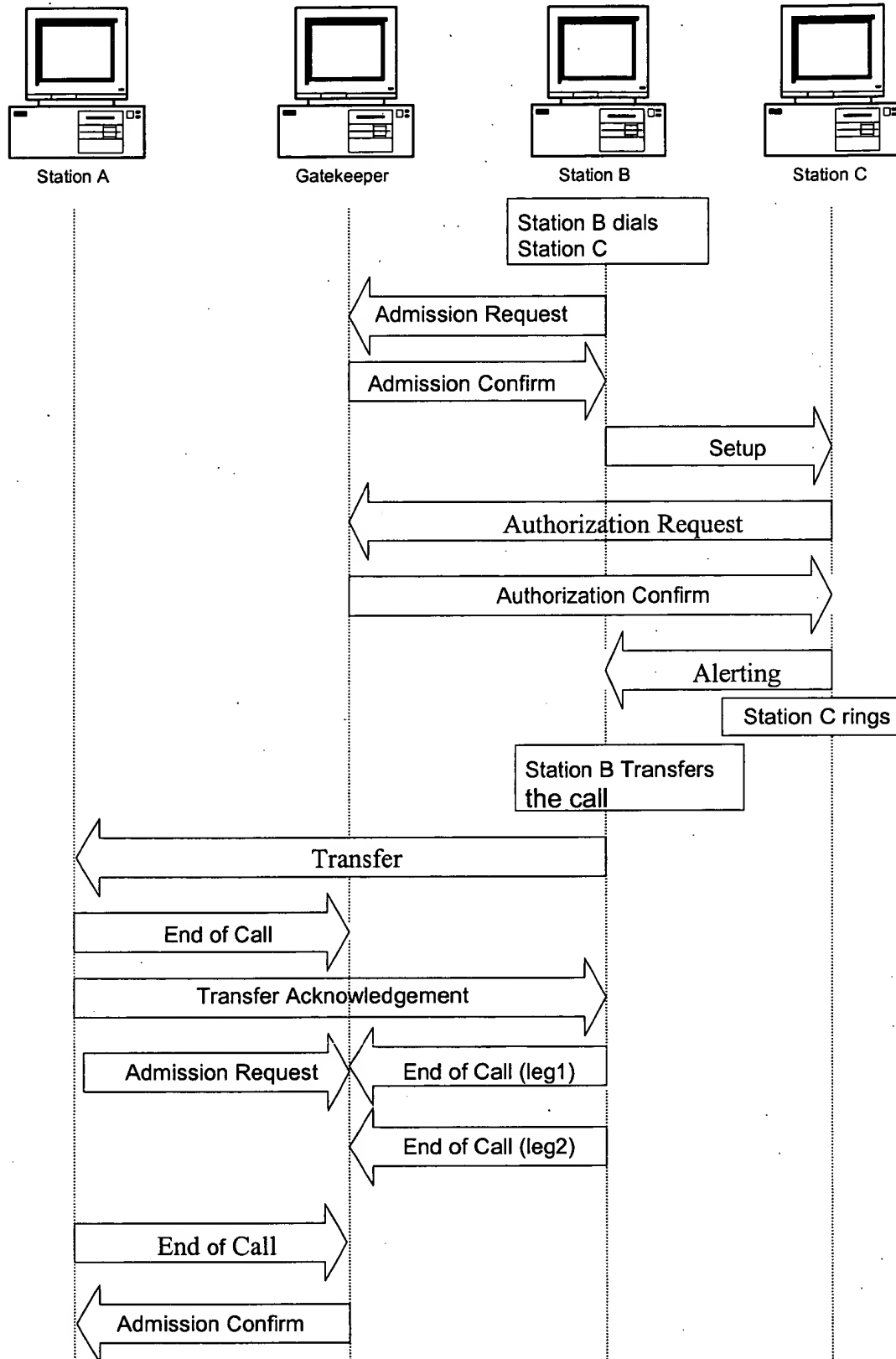


FIG. 31b

PC to PC - Blind Transfer (cont)

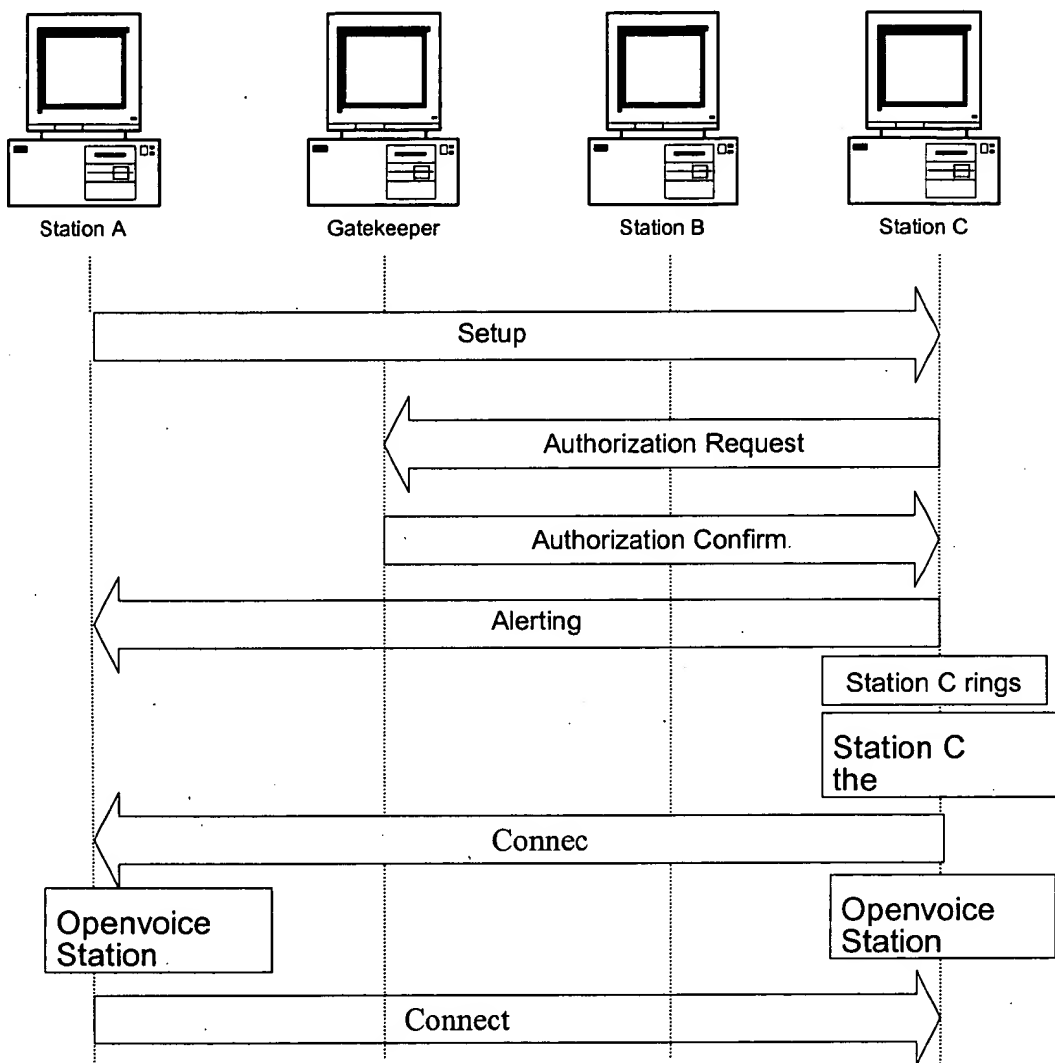


FIG. 31c

PC to PC - Consultative Transfer

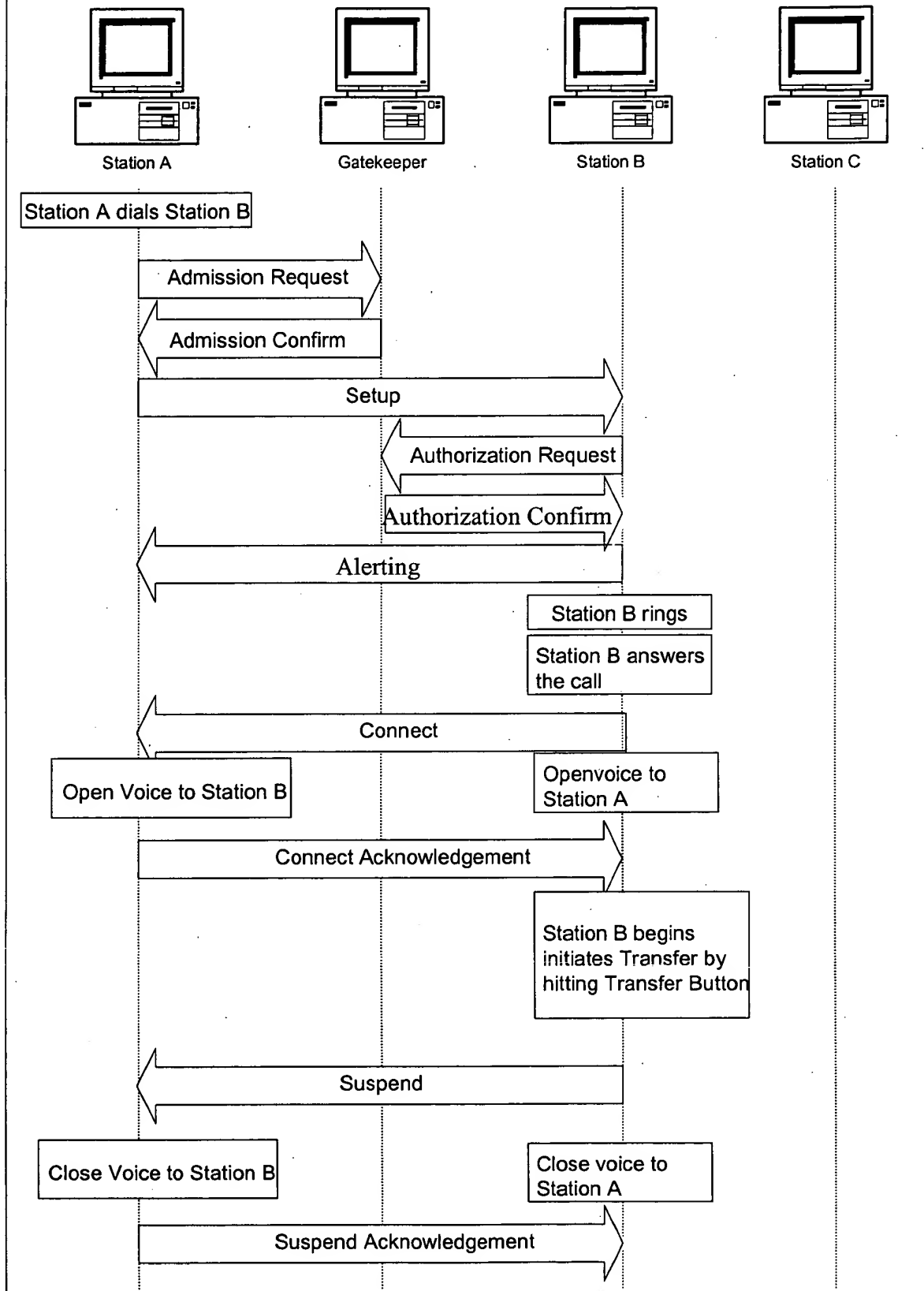


FIG. 32a

PC to PC - Consultative Transfer (cont)

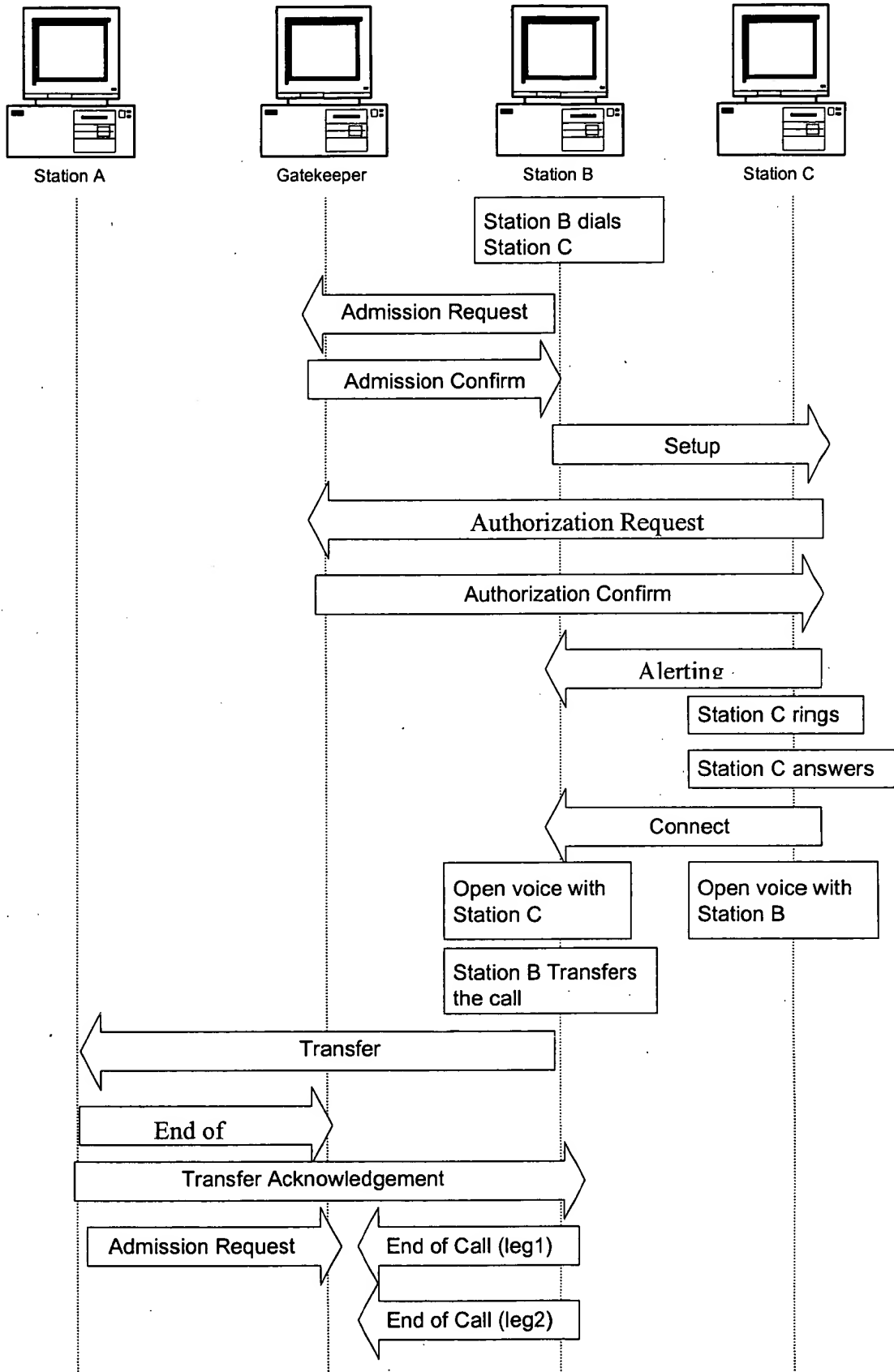


FIG. 32b

005T50-02242550

006T50" 02B4Z560

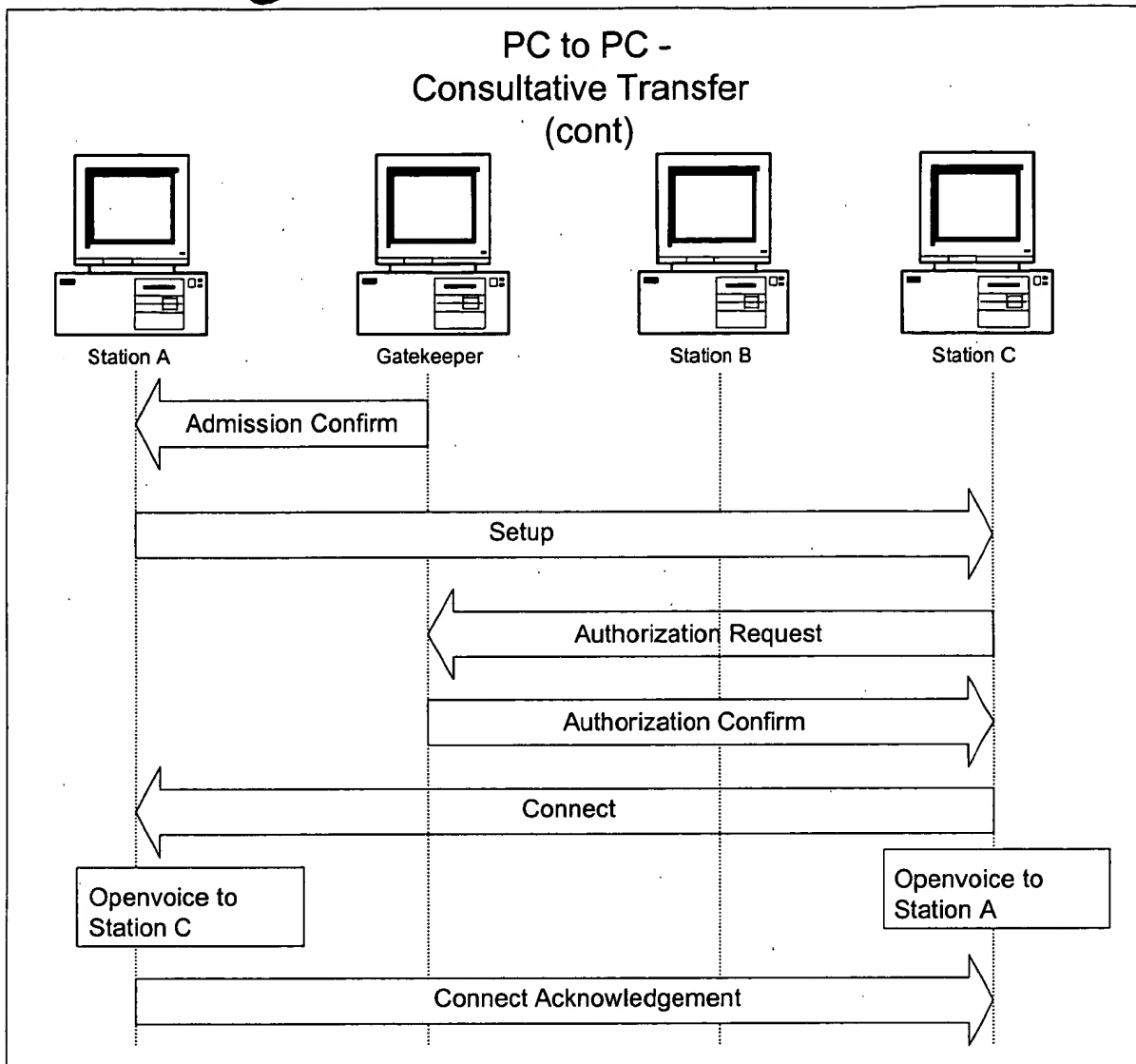


FIG. 32c

006150-02872560

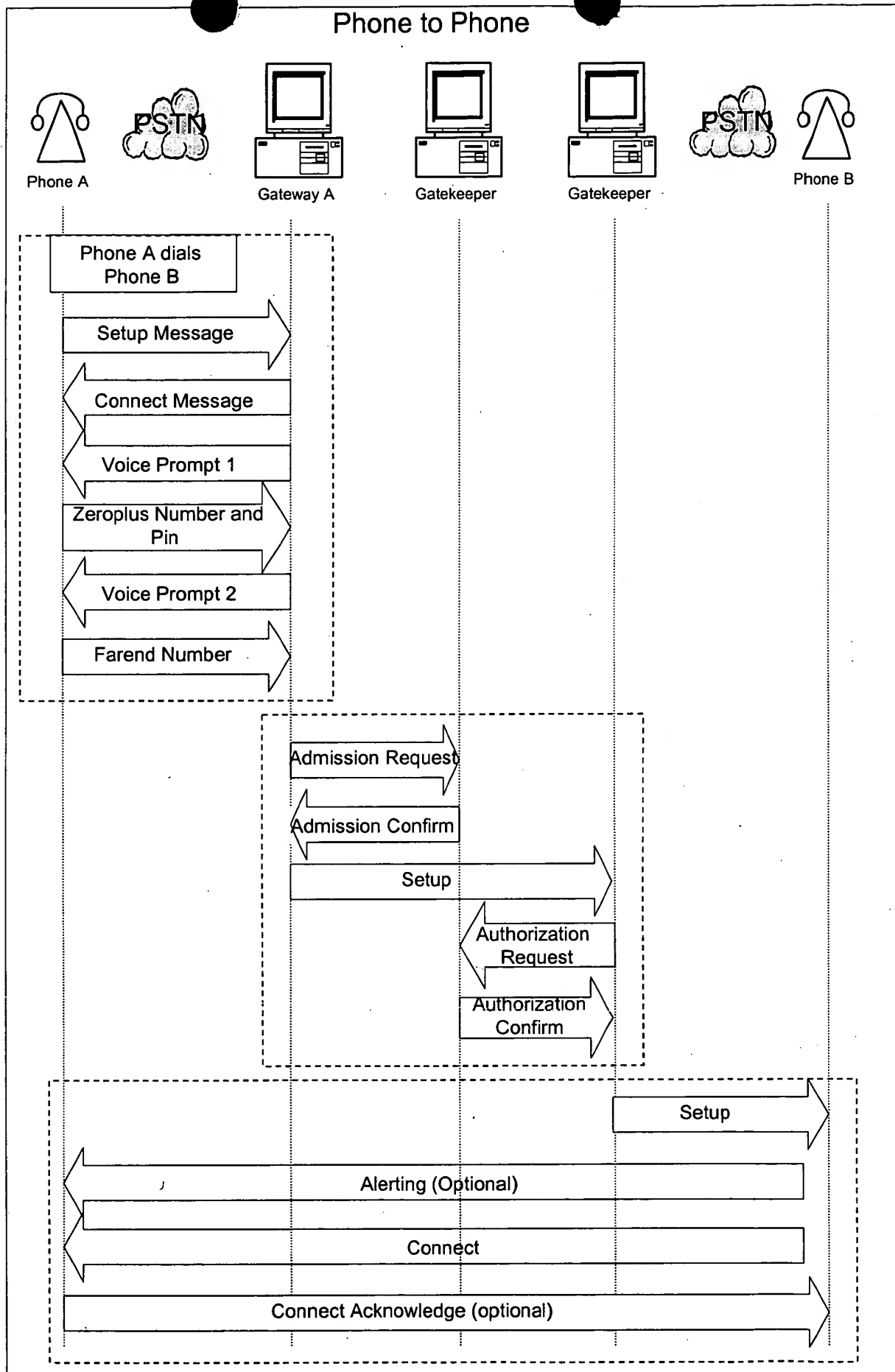


FIG. 33